CLAIMS

What is claimed is:

1.   A method of detecting user activity of a computer, the method comprising:

taking a temperature reading in connection with the computer;

determining a desired operating temperature for the computer;

comparing the temperature reading and the desired operating temperature to determine a temperature difference; and

determining a user activity indication based on the temperature difference.

2.   The method of claim 1, wherein the user activity indication identifies increased user activity when the temperature reading exceeds the desired operating temperature.

3.   The method of claim 1, wherein the user activity indication identifies decreased user activity when the temperature reading is less than the desired operating temperature.

4.   The method of claim 1, further comprising adjusting a clock signal frequency applied to a processor within the computer as a function of the temperature difference.

5.   The method of claim 4, wherein the clock signal frequency is increased when the temperature difference is positive.

6.   The method of claim 4, wherein the clock signal frequency is decreased when the temperature difference is negative.

7.   The method of claim 4, further comprising adjusting a voltage applied to the processor.

8. The method of claim 7, wherein the voltage is increased when the temperature difference is positive.

9. The method of claim 7, wherein the voltage is decreased when the temperature difference is negative.

10. A method for use in connection with a processor of a computer, the method comprising:

taking a temperature reading in connection with the processor;

determining a desired operating temperature for the processor;

comparing the temperature reading and the desired operating temperature to determine a temperature difference; and

adjusting a voltage applied to the processor within the computer, the voltage applied based upon the temperature difference.

11. The method of claim 10, further comprising comparing the temperature difference to a threshold, and wherein the voltage applied to the processor is adjusted when the temperature difference exceeds the threshold but is not adjusted when the temperature difference is less than the threshold, and wherein the temperature voltage is increased when the temperature difference is positive.

12. A method for use with a computer, the method comprising:

taking a temperature reading in connection with the computer;

determining a desired operating temperature in connection with the computer;

comparing the temperature reading and the desired operating temperature to determine a temperature difference; and

adjusting a clock signal applied to a processor within the computer, the clock signal applied to the processor based upon the temperature difference.

13. The method of claim 12, wherein the clock signal applied to the processor has an increased frequency when the temperature difference is positive.

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14.   A method for use with a computer having a processor, the method comprising:

taking a temperature reading in connection with the computer;

determining a desired operating temperature for the computer;

comparing the temperature reading and the desired operating temperature to determine a temperature difference; and

increasing a performance state of the processor when the temperature difference is positive.

15.   A system comprising:

a processor device having a clock input to receive a clock signal;

a temperature measurement device responsive to the processor device, the temperature measurement device configured to take a temperature measurement for the processor; and

control logic responsive to the temperature measurement device, the control logic to compare the temperature measurement to a desired operating temperature to determine a temperature difference; and wherein the clock signal applied to the clock input has a frequency that is increased when the temperature difference is positive.

16.   The system of claim 15, wherein the processor device further comprises a voltage input and wherein the voltage applied to the voltage input is increased when the temperature difference is positive.

17.   The system of claim 15, wherein the frequency of the clock signal is decreased when the temperature difference is negative.

18.   The system of claim 16, wherein the voltage applied to the voltage input is decreased when the temperature difference is negative.

19.   The system of claim 16, further comprising a lookup table containing a plurality of desired operating temperatures for the processor, each of the desired operating temperatures based on different operating characteristics associated with the processor.

20.   The system of claim 19, wherein the operating characteristics include clock frequency and voltage applied to the processor.

21.   A computing system comprising:

a processor device having a clock input to receive a clock signal;

an operating system that allows a user to select between a manual clock speed mode of operation and an automatic temperature-based mode of operation;

a temperature measurement device responsive to the processor device, the temperature measurement device configured to take a temperature measurement for the processor device;

control logic responsive to the temperature measurement device, the control logic to compare the temperature measurement with a desired operating temperature to determine a temperature difference; and

wherein when the computing system is in the manual clock speed mode of operation, the clock signal applied to the clock input has a substantially constant frequency and when the computing system is in the automatic temperature-based mode of operation, the clock signal applied to the clock input has a frequency that is adjusted based on the temperature difference.

22.   The computer system of claim 21, wherein the temperature measurement device takes a plurality of temperature measures and the temperature measurement is determined by taking an average of the plurality of temperature measurements.

23.   The computer system of claim 21, wherein the predetermined desired operating temperature is read from a look-up table.

24.   The computer system of claim 21, wherein the desired operating temperature is computed based on a plurality of factors, the plurality of factors including the current frequency, voltage, and temperature of the processor device.

25.   The computer system of claim 24, wherein the desired operating point is modified based on environmental variations affecting the processor device.

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